

### **Tuberculosis - Massachusetts**

In 2006, 259 cases (case rate 4.08 per 100,000 population) of active tuberculosis (TB) were reported to and verified by the Massachusetts Department of Public Health, Division of TB Prevention and Control. Although this represents a 2% decrease since 2005, the 2006 case rate is still above the year 2000 CDC objective, and the overall case rate for Massachusetts has remained statistically unchanged since 1996.

### **Drug Resistance**

In 2006, 200 (77%) of the 259 TB cases were bacteriologically confirmed by positive culture for *Mycobacterium tuberculosis*. This represents a bacteriologically substantiated incidence rate of 3.2 per 100,000 population.

Of the 200 bacteriologically confirmed cases, drug susceptibility was performed for 197 (99%) of the isolates. Thirty-seven isolates (19%) were resistant to one or more anti-tuberculosis drugs. Isolates from 26 (70% of 37 cases, 13% of 197 cases) were resistant to isoniazid (INH) either alone or in combination with other agents. Since 2003, the percent of bacteriologically confirmed TB cases with drug resistant isolates has increased from 9% to 19%.

In 2006, there were 4 MDR-TB cases (defined as resistance to at least INH and rifampin (RIF)), none of which were XDR-TB cases (defined as an MDR-TB case with additional resistance to any fluoroquinolone and at least one injectable second-line drug, such as amikacin, kanamycin or capreomycin).

### **Race/Ethnicity**

Persons in minority groups composed 79% of the TB cases in 2006. Case rates for whites and Hispanics gradually declined between 1992-1996 and have since leveled off. For blacks, the case rate has declined 61% from 48.1 per 100,000 in 2006. Asians continue to have a much higher case rate than any other group (34.9 per 100,000 in 2006).

### **Higher Risk Groups**

Non-U.S. born (persons born outside the United States and its territories): Among the 199 non-U.S. born persons with TB in 2006, those from 12 countries account for 63% of TB cases. These countries included: Vietnam, 19 cases (7%); China, 18 cases (7%); India, 16 cases (6%); Haiti, 13 cases (5%); Brazil, 13 cases (5%); Cape Verde, 10 cases (4%); Dominican Republic, 9 cases (4%); Cambodia, 8 cases (3%); Ethiopia, 6 cases (2%); Ecuador, Philippines, and Uganda, 5 cases each (2%). The remaining 72 cases (36%) were from 40 different countries. Between 1993 and 2006, 50% of TB cases in persons born outside the United States and its territories were diagnosed within 5 years of arrival to the US.

Homeless: Of the 259 cases of TB reported in 2006, 11 cases (4%, case rate 35.4 per 100,000) were reported to have been homeless. Among the 11 homeless cases, 6 (55%) were reported from the City of Boston.

Incarcerated: Since 1993, the numbers of TB cases diagnosed in correctional facilities remained constant, with no more than 5 cases per year. In 2006, 10 cases (4%, case rate 41.5 per 100,000) of TB were diagnosed in either state or county correctional facilities.

HIV co-infected: Nineteen cases of TB (7%) in 2006, were also co-infected with HIV – a rate similar to previous years.

Children: In 2006, 8 TB cases (3%, case rate <1.0 per 100,000) were in children <15 years of age, of which 4 (50%) were

<b>Characteristics of TB Cases 2006 (N=259)</b>		
<b>Demographics</b>		<b># %</b>
<b>Sex</b>		
Male		156 (60%)
Female		103 (40%)
<b>Race Ethnicity</b>		
White, non-Hispanic		55 (21%)
Black, non-Hispanic		71 (27%)
Hispanic		49 (19%)
Asian		84 (33%)
<b>Place of Birth</b>		
US-Born		60 (23%)
Non US Born		199 (77%)
<b>Age (years)</b>		
<1-24		35 (14%)
25-44		116 (45%)
45-64		64 (25%)
65+		44 (17%)
<b>Clinical Presentation</b>		
<b>Primary Site of Disease</b>		
Pulmonary		186 (72%)
Extra pulmonary		73 (28%)
<b>Chest X-Ray Results</b>		
Cavitary Disease		52 (20%)
Non-cavitary Disease		169 (65%)
Normal		38 (15%)
Not Done		0
<b>High Risk Groups+</b>		
Non-U.S. Born		199 (77%)
Children < 15 Yrs.		8 (3%)
Prison/jail		10 (4%)
Homeless		11 (4%)
Excessive alcohol		20 (8%)
HIV positive		19 (7%)
Injecting or non-injecting drug abuse		12 (5%)
+Not mutually exclusive groups		
<b>Drug Resistance (N=197 Bacteriologically Confirmed Cases)</b>		
<b>Pattern</b>		
Resistance to at least 1 drug		37 (19%)
Resistance to at least INH		26 (13%)
Resistance to at least INH + RIF (MDR-TB)		4 (2%)

**Note: All case rates are per 100,000 population.**

**For additional information, please visit our web page: <http://www.mass.gov/dph/cdc/tb>**

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children of minority communities. The case rate among minority children in 2005 was 2.5 per 100,000 population.

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